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09/719,468	12/13/2000	Hikmet Sari	Q 62241	8806

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EXAMINER	
MILLS, DONALD L	

ART UNIT	PAPER NUMBER
2662	

DATE MAILED: 08/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/719,468	Applicant(s) SARI, HIKMET	
	Examiner Donald L Mills	Art Unit 2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 June 2001*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-3 and 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Rotstein et al. (US 6,091,759), hereinafter referred to as Rotstein in view of Subramanian (US 5,361,276).

Regarding claim 1, Rotstein discloses a method for spreading and dispreading data in a spread-spectrum communication system, which comprises:

Coding symbols of messages transmitted to first terminal with a coding sequence of 2N bits to produce sequences of 2N chips (Referring to Figure 2, direct-spread transmission comprises 64 chips for a user, inherently comprising a coding sequence of 2N bits to produce a sequence of 64 chips. See column 4, lines 25-26.)

Coding symbols of other messages transmitted to a second user terminal with a coding sequence of k2N bits to produce sequences of k2N chips, where k is an integer greater than 1 (Referring to Figure 2, multi-carrier transmission comprises 256 chips for another user, inherently comprising a coding sequence of k2N chips, where k is greater than 1. See column 4, lines 21-22.)

Rotstein does not disclose *coding symbols with a coding sequence of k2N when interference at the second user terminal is higher than interference at the first user*

terminal, or when interference at the second user terminal is expected to e higher than interference at said first user terminal.

Subramanian teaches for spread spectrum communication signals there is a large redundancy inherent (coding sequence of k2N) in the signals which is required to overcome the severe levels of interference (higher interference levels) that are encountered in the transmission of digital information over radio channels (See column 3, lines 4-10.)

It would have been obvious to one of ordinary skill in the art to implement the method of increasing the number of coding symbols to overcome the interference of Subramanian in the varying Walsh code symbol rate system of Rotstein. One of ordinary skill in the art would have been motivated to do so in order to successfully transmit CDMA messages in a system with severe and varying levels of interference. In addition, it is well known to one of ordinary skill in the art that increasing the number of coding symbols is performed to compensate for increased levels of interference. Even though Rotstein does not explicitly disclose varying the Walsh code symbol rate in relation to interference, it is implied since varying the symbol rate is typically performed in relation to the amount of experienced interference.

Regarding claim 2, the primary reference further teaches a method *characterized in that at least two symbols of said other messages are transmitted simultaneously* (Referring to Figure 2, during multi-carrier transmission, three consecutive Walsh codes share the same time-varying PN code, as if they were transmitted simultaneously. See column 4, lines 39-41.)

Regarding claim 3, the primary reference further teaches a method *characterized in that k symbols of said other messages are transmitted simultaneously* (Referring to Figure 2, during multi-carrier transmission, three consecutive Walsh codes share the same time-varying PN code, as if they were transmitted simultaneously. See column 4, lines 39-41.)

Regarding claim 6, the primary reference further teaches a method *characterized in that the symbols or the chips are coded by random bit sequences* (Referring to Figure 2, the sequence of walsh codes is further scrambled by a pair of PN codes **224**. See column 4, lines 27-28.)

Regarding claim 7, the primary reference further teaches a method *characterized in that a single sequence is concatenated with a repetition of that single sequence or with a complementary single sequence to constitute a coding sequence k2N* (Referring to Figure 2, multi-carrier transmission comprises 256 chips, inherently comprising a repetition of the sequence during multi-message transmission. See column 4, lines 21-22.)

Regarding claim 8, the primary reference further teaches a method *characterized in that decoding subsystems are used simultaneously in a user terminal k to decode in parallel k symbols of a message transmitted to that user* (Referring to Figure 5, during multi-carrier reception all Walsh codes utilized comprise **256** chips at multi-mode receiver back end **500**. See column 6, lines 47-48 and lines 21-22.)

Regarding claim 9, the primary reference further teaches a method *characterized in that a symbol is decoded in a user terminal with a decoding sequence of length k2N*

(Referring to Figure 5, during multi-carrier reception all Walsh codes utilized comprise **256** chips. See column 6, lines 21-22.)

3. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rotstein et al. (US 6,091,759), hereinafter referred to as Rotstein, in view of Subramanian (US 5,361,276), further in view of Boch (US 6,205,337 B1).

Regarding claim 4 as explained above in the rejection statement of claim 1, Rotstein discloses all of the claim limitations of claim 1. Rotstein further teaches *coding sequences that are divided into subsets* (Referring to Figure 2, the sequence of Walsh codes are further scrambled to generate an I-channel and Q-channel spread sequence. See column 4, lines 27-29.) Rotstein does not disclose *a radiation cell of a base transceiver station is divided into sectors; a common carrier frequency is used for all the sectors of the cell; and different subsets are assigned to user terminals which are located in adjoining or contiguous sectors.*

Boch teaches a 4-sectored cell as seen in Figure 3, which utilizes a common carrier frequency for user terminals in adjacent sectors (See column 6, lines 17-18.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement sectional cell system of Boch in the system of Rotstein. One of ordinary skill in the art would have been motivated to do so in order to subdivide a cell in order to optimize utilization of each frequency within the allocated frequency range as taught by Boch (See column 1, lines 30-33.)

Regarding claim 5 as explained above in the rejection statement of claim 1, Rotstein discloses all of the claim limitations of claim 1. Rotstein does not disclose a

method *characterized in that different base transceiver stations of a cellular system transmit chips on a common carrier frequency and with a common pass-band.*

Boch teaches a 4-sectored cell as seen in Figure 3, which utilizes a common carrier frequency for user terminals in adjacent sectors (See column 6, lines 17-18.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement sectional cell system of Boch in the chip system of Rotstein. One of ordinary skill in the art would have been motivated to do so in order to subdivide a cell in order to optimize utilization of each frequency within the allocated frequency range as taught by Boch (See column 1, lines 30-33.)

Response to Arguments

4. Applicant's arguments with respect to claims 1-9 have been considered but are moot in view of the new grounds of rejection.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald L Mills whose telephone number is 703-305-7869. The examiner can normally be reached on 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 703-305-4744. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JOHN PEZZLO
PRIMARY EXAMINER

Donald L Mills

August 12, 2004